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NEA/I: RSCHMIERER
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ISN/RA:KKESSLER
S/I:KNUTT
L/NPV:THISCH
DOE: JSELLEN
JS: SNORWOOD
OSD: TBENNET

E.O. 12958: DECL: 01/08/2018

TAGS: [ECON](#) [IZ](#) [PARM](#) [PREL](#)

SUBJECT: (S) GOI PROVIDES PAPER ON ALTERNATIVE IRRADIATION
SOURCES

REF: A. A. STATE 163968
[1](#)B. B. BAGHDAD 4126
[1](#)C. C. STATE 169324
[1](#)D. D. BAGHDAD 2454
[1](#)E. E. BAGHDAD 1787
[1](#)F. F. BAGHDAD 734
[1](#)G. G. BAGHDAD 004227

Classified By: Cries for Reasons 1.4 (B), (D) and (H)

[1](#)1. (S) In a Jan 8, 2008 meeting held at Iraq's Ministry of Science and Technology (MOST), Minister Raid Jahid (FAHMI) provided NNSA Representative Boudreau a paper outlining the agricultural purposes for which Iraq used the four irradiation sources the US has prepared for shipment from the Tuwaitha Nuclear Research Center. The paper also outlines the purposes for a replacement irradiation source (non-nuclear). Nawal H. (SHAMOON), Director General of the Agricultural Research & Food Directorate in MOST, attended the meeting. Her Directorate authored the report. She made several points regarding the importance of using the replacement source to fight disease in Iraq and asked that the US move quickly to help Iraq obtain an alternative source.

[1](#)2. (SBU) GOI paper on alternative sources:

Background

The Agric. Res. & Food Tech. Directorate concerned with the peaceful application of nuclear technique in agriculture & biology since its establishment in the sixties of the last century within the Nuclear Research Center. In 1966, when the first Gamma-220 (60 Co source) at about 11000 Ci was imported from Canada with aid of IAEA. In 1978, an open type gammabeam-650 (60Co source) has been imported for food irradiation (for) mainly dates disinfestations (Alternative quarantine treatment to methyl bromide), sprout inhibition in potato, onion & garlic. The latter unit was upgraded to about 50000 Ci in 1985 to meet further needs (Sterilization at Medical Supplies). Because of low intensity of the gammacell-220 a new one with 60Co source at about 24000 Ci was imported in 1984 along with gammacell-40 with 137Cs source of 2530 Ci for low dose purposes which (was) imported in 1981.

The above four mentioned units have been used to perform

studies in the following fields:

- 1) Irradiation Disinfestations of Dates.
- 2) Irradiation Disinfestations of wheat, barely, rice.
- 3) Induce Mutation to improve plant breeding, e.g., wheat, barely, rice, corn, sunflower, etc.
- 4) Increases shelf-life, enhances freshness by reducing spoilage organisms & delay ripening.
- 5) Induce either sexual sterility or inherited sterility in insect pests, e.g., Date Moth, Pomegranate Moth, Corn Stem Borer, Fruit Flies & Screwworm Fly.
16. Sprout inhibition in potato, onion and garlic.
17. Sterilization of medical supplies.
18. Irradiating biological specimens.

Furthermore, Iraq planned during the eighties of the last century to have a gamma plant to be used for agriculture, industrial & medical purpose at a commercial level but no positive action was taken & this goal has been frozen after 2 August 1990. Therefore, the scientists at the Directorate of Agric. Res. & Food Tech continue their research using the four gamma ray irradiators till March 2003.

Present and Future Plans

The researchers at Agric. Res. & Food Tech. Directorate/MoST will continue their research in the above mentioned fields because they believe in the peaceful applications of nuclear technique in the above mentioned fields. They share the view in different countries that modern technique should replace the conventional technique, e.g., using Sterile Insect Technique (SIT) for eradicating insect pests instead of using chemical insecticide which is dangerous & hazardous to the environment.

Need Gamma Ray Irradiators or other Technology

Because the Agric. Res. & Food Tech. Directorate have well trained staff for using Gamma Ray Irradiators, it is believed that these gamma ray irradiators should be kept at (the) Tuwaitha Site; but, if this is impossible because the Tuwaitha Site is a very hazardous place for Iraqi researchers to work as Mr. Riedy mentioned in his report, (then), electron beam irradiation could replace the most new two gamma ray irradiators. These electron beam irradiators could be supplied to MoST (by US Embassy (put in parenthesis by Iraqi drafter)) to replace the four gamma ray irradiators. In which case, MoST then needs some of her staff to visit specific site in U.S. as Mr. Edgar Parks & Mr. Albert Walgreen suggested during 3 Dec 2007 meeting with MoST Minister and his colleagues.

Old World Screwworm (OWS) Project

MoST likes to explain to U.S. Embassy why it needs the gamma ray irradiator urgently (Gammacell-200 for Screwworm project).

This pest, Old World Screwworm Fly, is a parasite, notifiable to OIE, that attacks all warm-blooded vertebrate, including humans. Unfortunately no sustainable success was obtained so far by insecticide/larvicide's based control of this pest. Therefore, the use of STI is considered and proposed as the only practical approach for sustainable controlling of this pest in Iraq. In this respect we would like to let you know that 23 cases of human myiasis (were) reported between Sept 1996 through Dec. 2004, 2005 & 2006 (occurred in Iraq?).

Researchers in MoST carried (on) all needed studies related to use SIT to control this pest. Furthermore, researchers from MoST, Ministry of Agriculture (Agricultural Directorate?) with support from experts from AOAD, FAO & IAEA (are) planning to establish Mass Rearing Unit in Iraq to produce millions of sterile OWS, then release them into infested provinces to eradicate this pest. To achieve this (goal) project, (either) a gamma ray irradiator or electron beam irradiator should be available in the unit urgently.

Thanks for your cooperation.

Looking forward to hearing from you.

13. (U) Attendees:

GOI

Raid J. Fahmi, Minister of Science and Technology
Dr. Samir S. Al Attar, Senior Deputy Minister, MOST
Dr. Fouad K. Al Mousawy, Deputy Minister, MOST
Mohammed J. Sharaa, Director General, Monitoring Directorate,
MOST
Ms Nawal H. Shamoon, Director General, Agriculture Research
and Food Technology, MOST
Ms.Sundua A. Mousa, Minister's Office
Dr. Jamal Wahaib, Project Manager, Aeronautics and Space
Technology Directorate, MOST
Mr. Salam Ahmed, Engineer, Aeronautics and Space Technology
Directorate, MOST

US

Ms. Cheryl Dukelow, Commercial Attach
Robert Boudreau, Senior Representative DOE/NNSA
Dr. Paul Savello, ITAO Senior Consultant
Mustafa AL Qassab, Advisor, Department of Commerce

Note: Commerce Delegation had separate agenda.
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